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1106

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OIPE

RAW SEQUENCE LISTING

DATE: 11/13/2001

PATENT APPLICATION: US/09/815,923

TIME: 15:05:12

Input Set : A:\Uco-938.app

Output Set: N:\CRF3\11132001\I815923.raw

3 <110> APPLICANT: Gill, Sarjeet S.
4 Ross, Linda S.
5 The Regents of the University of California
7 <120> TITLE OF INVENTION: Use of Insect Cell Membrane Transporters as Novel
8 Target Sites for Insecticides
10 <130> FILE REFERENCE: 023070-093800US
12 <140> CURRENT APPLICATION NUMBER: US 09/815,923
13 <141> CURRENT FILING DATE: 2001-03-23
15 <160> NUMBER OF SEQ ID NOS: 20
17 <170> SOFTWARE: PatentIn Ver. 2.1
19 <210> SEQ ID NO: 1
20 <211> LENGTH: 5554
21 <212> TYPE: DNA
22 <213> ORGANISM: Manduca sexta
24 <220> FEATURE:
25 <223> OTHER INFORMATION: vesicular acetylcholine transporter
27 <400> SEQUENCE: 1

ENTERED

p.5

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125 <212> TYPE: PRT
126 <213> ORGANISM: Manduca sexta
128 <220> FEATURE:
129 <223> OTHER INFORMATION: vesicular acetylcholine transporter
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136 20 25 30
138 Glu Lys Ile Gln Glu Pro Thr Ser Gln Arg Lys Ile Ile Leu Val Ile
139 35 40 45
141 Val Ser Ile Ala Leu Leu Leu Asp Asn Met Leu Tyr Met Val Ile Val
142 50 55 60
144 Pro Ile Ile Pro Asp Tyr Leu Arg Tyr Ile Gly Ala Trp Gly Glu Ala
145 65 70 75 80
147 Gly Tyr Asp His Val Val Thr Leu Pro Pro Ile Arg Glu Gly Asn Arg
148 85 90 95
150 Thr Ile Ile Pro Thr Lys Ile Ile Pro Ala Ser His His Gly Gln Asp
151 100 105 110
153 Ser Ala Thr Gly Val Leu Phe Ala Ser Lys Ala Ile Val Gln Leu Met
154 115 120 125
156 Ile Asn Pro Phe Ser Gly Ala Leu Ile Asp Arg Ile Gly Tyr Asp Ile
157 130 135 140
159 Pro Met Met Ile Gly Leu Ile Ile Met Phe Leu Ser Thr Ser Ile Phe
160 145 150 155 160
162 Ala Cys Gly Arg Ser Tyr Ser Met Leu Phe Phe Ala Arg Ser Leu Gln
163 165 170 175
165 Gly Ile Gly Ser Ala Phe Ala Asp Thr Ser Gly Leu Ala Met Ile Ala
166 180 185 190
168 Asp Arg Phe Thr Glu Glu Ser Glu Arg Ser Lys Ala Leu Gly Ile Ala
169 195 200 205
171 Leu Ala Phe Ile Ser Phe Gly Ser Leu Val Ala Pro Pro Phe Gly Gly
172 210 215 220

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177 Leu Ile Ser Leu Met Asp Gly Phe Met Leu Leu Val Met Lys Pro
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180 Ile Lys Thr Gln Met Lys Glu Ala Asn Gln Pro Lys Pro Ala Gly Thr
181                260                265                270
183 Pro Ile Trp Lys Leu Leu Met Asp Pro Tyr Ile Ala Val Cys Ala Gly
184                275                280                285
186 Ala Leu Met Met Ser Asn Ala Ala Leu Ala Phe Leu Glu Pro Thr Ile
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189 Ser Ser Trp Met Glu Asp Asn Leu Thr Lys Asp Asn Trp Lys Ile Gly
190 305                310                315                320
192 Met Ile Trp Leu Pro Ala Phe Phe Pro His Val Leu Gly Val Ile Ile
193                325                330                335
195 Thr Val Lys Met Ala Lys Lys Tyr Pro Gln Gln Gln Trp Leu Met Ala
196                340                345                350
198 Ala Gly Gly Leu Ala Leu Glu Gly Leu Cys Cys Phe Ile Ile Pro Phe
199                355                360                365
201 Ala Ser Ser Tyr Lys Met Leu Met Ile Pro Ile Cys Gly Ile Cys Phe
202                370                375                380
204 Gly Ile Ala Leu Ile Asp Thr Ala Leu Leu Pro Thr Leu Gly Tyr Leu
205 385                390                395                400
207 Val Asp Val Arg Tyr Val Ser Val Tyr Gly Ser Ile Tyr Ala Ile Ala
208                405                410                415
210 Asp Ile Ser Tyr Ser Phe Ala Tyr Ala Val Gly Pro Ile Ile Ala Gly
211                420                425                430
213 Glu Val Val Glu Ala Ile Gly Phe Thr Ala Leu Asn Leu Leu Ile Ala
214                435                440                445
216 Phe Ser Asn Leu Leu Tyr Ala Pro Val Leu Met Tyr Leu Arg His Ile
217                450                455                460
219 Tyr Asp Phe Lys Pro Phe Glu Asn Glu Ala Asn Ile Leu Met Ser Asp
220 465                470                475                480
222 Pro Pro Asp Lys Glu Tyr Gln Thr Tyr Ser Met Gln Asp Gln Arg Pro
223                485                490                495
225 Val Asn Gly Glu Tyr Lys Asn His Leu Glu Tyr Ser Asn Val Ser Gly
226                500                505                510
228 Gln Val Ala Ala Thr Gln Glu Ser Asn Val Asp Ala Ala Gln Thr Gly
229                515                520                525
231 Tyr Ser Tyr Asp Gln Ser Tyr Gln Gly Asp Tyr Gln Asn Tyr Ser Gln
232                530                535                540
234 Ala Thr Ser Arg Ser Thr Ser Thr Asn Arg Ser Thr Thr Ser Arg Gly
235 545                550                555                560
237 Ser Cys Leu Pro Ser Arg Ser Pro Arg Leu Ala Ile Arg Ser Ala Gln
238                565                570                575
240 Ala Arg Gln Arg Leu Pro His Pro Arg Pro Arg Gln Pro Arg Leu Leu
241                580                585                590
243 Pro Pro Ser Arg Thr Arg Ser Gly Lys Ala Ser Lys Phe Tyr Ser Val
244                595                600                605
246 Leu Leu Ser Ile Phe Leu Asn Leu Leu Val Val

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251 <211> LENGTH: 1764
252 <212> TYPE: DNA
253 <213> ORGANISM: Manduca sexta
255 <220> FEATURE:
256 <223> OTHER INFORMATION: serotonin transporter
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261 tgggcgaaga aggcagagtt cctgctggcg gtgggtggat tcgcagtgga tcttggtaac 180
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292 <211> LENGTH: 587
293 <212> TYPE: PRT
294 <213> ORGANISM: Manduca sexta
296 <220> FEATURE:
297 <223> OTHER INFORMATION: serotonin transporter
299 <400> SEQUENCE: 4
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301 1 5 10 15
303 Leu Pro Ala Thr Thr Ala Gln Lys Ser Arg Ser Val Val Val Ser Leu
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Use of n and / or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to ensure a corresponding explanation is present in the <220> to <223> fields of each sequence using n or Xaa.

VERIFICATION SUMMARY

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L:1523 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L:1551 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L:1584 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19
L:1627 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20